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(19) **United States**(12) **Patent Application Publication** (10) **Pub. No.: US 2005/0122652 A1****Richardson et al.**(43) **Pub. Date:****Jun. 9, 2005**(54) **APPARATUS FOR POWER SUPPLY SYSTEMS****Publication Classification**(76) Inventors: **Michael Richardson**, Sutton (GB);
David Kelsall, Wigan (GB)(51) **Int. Cl.⁷** **H02H 3/24**(52) **U.S. Cl.** **361/92**

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CHARLOTTE, NC 28282 (US)(57) **ABSTRACT**

There is disclosed a control apparatus (12) for a power supply system (2) operable at a fluctuating line voltage, the system further comprising an energy storage device (10), and the control apparatus further comprising a line voltage monitor (14) and an energy storage device controller (12), wherein the control apparatus is configured whereby the energy storage device is at least partly discharged if the line voltage falls below a first predetermined voltage and the energy storage device is at least partly charged if the line voltage exceeds a second predetermined voltage and in which the first predetermined voltage is substantially lower than the second predetermined voltage. A power supply system (12) incorporating such a control apparatus is disclosed, as is a method of control thereof.

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